IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE THE APPLICATION OF	) Examiner: Robert D. Harlan
	)
Woeng-Sig Moon	) Art Unit: 1713
	)
SERIAL NO.: 10/519,345	) Docket No. 37922-97887
	)
FILED: December 23, 2004	) Customer Number: 23644
	)
FOR: Polymer Resin Formulation Having Anti-Microbial or Anti-Coagulability and Preparation Method Thereof	)
	)
	)

RESPONSE TO THE OFFICE ACTION OF DECEMBER 21, 2006

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Please amend the above-identified patent application as follows:

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for preparing an anti-microbial or anti-coagulating polymer resin comprising the step of mixing a polymer resin with at least one kind of pharmaceutically active material without using a solvent,

wherein the pharmaceutically active material is an anti-microbial selected from the group consisting of grepafloxacin, sparfloxacin, clinafloxacin, enoxacin, lemefloxacin, norfloxacin, pipemidic acid, ciprofloxacin, temafloxacin, tosufloxacin, ketoconazole, itraconazole, econazole, isoconazole, fluconazole, miconazole, terbinafin, a salt thereof, and a mixture thereof,

wherein the pharmaceutically active material is an anti-coagulant selected from a group consisting of warfarin, aspirin, ticlopidine, triflusal, clopidogrel, cilostazole, a salt thereof, and a mixture thereof, and

wherein the method comprises the step of adding one or more kinds of additives selected from a group consisting of a dispersant, an anti-oxidant, and a heat stabilizer.

2. (Original) The method according to claim 1, wherein the pharmaceutically active material is contained in an amount of 0.1 to 30 wt% of the total composition.

3. (Original) The method according to claim 1, wherein the pharmaceutically active material is contained in an amount of 0.1 to 20 wt% of the composition.

4. (Canceled)

5. (Canceled)

6. (Currently Amended) The method according to claim 1, wherein the polymer resin is selected from a group consisting of polyetherimide ~~(PEI)~~, polyethylene ~~(PE)~~, polypropylene ~~(PP)~~, polycarbonate ~~(PC)~~, polyvinylchloride ~~(PVC)~~, polystyrene ~~(PS)~~, epoxy resin, polytetrafluoroethylene ~~(PTFE)~~, polyacetal ~~(POM)~~, polyamide ~~(PA)~~, polyurethane ~~(PU)~~, ethylene-vinylacetate copolymer ~~(EVA)~~, polymethylmethacrylate ~~(PMMA)~~, polyvinylalcohol ~~(PVA)~~, linear low density poly ethylene ~~(LLDPE)~~, low density polyethylene ~~(LDPE)~~, high density polyethylene ~~(HDPE)~~, ~~ABS~~ [[(]] acrylonitrile-butadiene—styrene[[)]], ~~SAN~~ [[(]]styrene-acrylonitrile[[)]], polyacrylonitrile, polybutadiene, polyacrylic acid, polyacrylimide, polysulfone, polyacetal, polyamide-imide, polytetrafluoroethylene, polyneoprene, polydimethylsiloxane, polymethylmethacrylate, polyetheretherketone, polyphenylenesulfide, polyvinylfluoride, polyvinylacetate, polyvinylidinefluoride, polyether sulfone, polycaprolactone ~~(PCL)~~ and a copolymer thereof; a silicon resin; a natural rubber; a synthetic rubber; and a mixture thereof.

7. (Canceled)

8. (Currently Amended) The method according to claim 1 ~~7~~, wherein the dispersant is N,N'-ethylene bis stearamide ~~(E.B.S.)~~, polyethylene wax, or a mixture thereof.

9. (Original) A medical polymer resin prepared by the method of claim 1, which has a maximum release concentration of pharmaceutically active material of 10 ppm/100 hrs.

10. (Currently Amended) A method for preparing an anti-microbial or anti-coagulating medical appliance comprising the steps of:

a) mixing a polymer resin with at least one kind of pharmaceutically active material without using a solvent; and

b) molding and processing the mixture without using a solvent,

wherein the pharmaceutically active material is an anti-microbial selected from a group consisting of grepafloxacin, sparfloxacin, clinafloxacin, enoxacin, lemefloxacin, norfloxacin, pipemidic acid, ciprofloxacin, temafloxacin, tosufloxacin, ketoconazole, itraconazole, econazole, isoconazole, fluconazole, miconazole, terbinafin, a salt thereof, and a mixture thereof,

wherein the pharmaceutically active material is an anti-coagulant selected from a group consisting of warfarin, aspirin, ticlopidine, triflusal, clopidogrel, cilostazole, a salt thereof, and a mixture thereof, and

wherein the medical appliance is selected from a group consisting of a silicon catheter, a prosthetic foot, a prosthetic hand, a medical catheter, a surgery glove, artificial skin, an artificial kidney, an artificial articulation, an artificial bone, a blood pack, a tube, a syringe, an artificial tooth, an artificial bone-fixing apparatus, an artificial blood vessel, an artificial fingernail, and an artificial toenail.

11. - 13. (Canceled)

14. (Original) The method according to claim 10, wherein the method comprises the steps of mixing a silicon resin with a pharmaceutically active material, and molding and processing the mixture at a maximum temperature of 600 °C/sec without using a solvent to prepare a silicon catheter.

15. (Original) An anti-microbial or anti-coagulating medical appliance prepared by the method of claim 10.

16. (Original) The medical appliance according to claim 15, wherein the medical appliance has

a maximum release concentration of pharmaceutically active material of 10 ppm/100 hrs.

17. (Currently Amended) A method for preparing a master batch or compound comprising the steps of:

mixing a resin selected from a group consisting of linear low density polyethylene ~~(LLDPE)~~, polypropylene ~~(PP)~~, polyethylene ~~(PE)~~, ABS, polycarbonate ~~(PC)~~, polystyrene ~~(PS)~~, and polyvinylchloride ~~(PVC)~~ resin with at least one kind of pharmaceutically active material without using a solvent; and

molding and processing the mixture at 100 to 300°C to prepare a master batch ~~(M/B)~~ or compound,

wherein the pharmaceutically active material is an anti-microbial selected from a group consisting of grepafloxacin, sparfloxacin, clinafloxacin, enoxacin, lemefloxacin, norfloxacin, pipemidic acid, ciprofloxacin, temafloxacin, tosufloxacin, ketoconazole, itraconazole, econazole, isoconazole, fluconazole, miconazole, terbinafin, a salt thereof, and a mixture thereof, and

wherein the pharmaceutically active material is an anti-coagulant selected from a group consisting of warfarin, aspirin, ticlopidine, triflusal, clopidogrel, cilostazole, a salt thereof, and a mixture thereof.

18. (Canceled)

19. (Canceled)

20. (Original) A master batch or compound prepared by the method of claim 17.

21. (Original) The master batch or compound according to claim 20, wherein the master batch

or compound is used in any selected from a group consisting of a water-purifying apparatus, a cutting board, a food packaging film, a food container, a refrigerator, a washing machine, a computer and peripheral device, a drinking water tank, a water tub, bidet nozzle and a urinal cover, desk and chair, an automobile handle, infant goods, a bath tub, and a cosmetic container.

22. (Original) A method for preparing paint comprising the step of mixing an anti-microbial selected from a group consisting of grepafloxacin, sparfloxacin, clinafloxacin, enoxacin, lemefloxacin, norfloxacin, pipemidic acid, ciprofloxacin, temafloxacin, tosufloxacin, ketoconazole, itraconazole, econazole, isoconazole, fluconazole, miconazole, terbinafin, a salt thereof, and a mixture thereof, with a polymer resin selected from a group consisting of alkyd resin, acryl resin, urethane resin, epoxy resin, phenol resin, urea resin, melamine resin, modified resin thereof, and a mixture thereof.

23. (Original) The method according to claim 22 further comprising the step of adding one or more kinds of additives selected from a group consisting of a pigment, a diluent, and physical property controlling monomer and oligomer, and polyol.

REMARKS

The above-identified patent application has been carefully reviewed in view of the Office Action of December 21, 2006. In the Office Action certain of the claims were objected to for including parenthetical language and for the use of tradenames. Claims 1-3, 6, 10 and 15-17 were rejected as being anticipated by JP 1997-315910, JP 2002-038032 and JP 08231317. Claims 7-9, 12-13, 20-21 and 23 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form. Reconsideration of this application in view of the amendments above and the remarks that follow is respectfully requested.

In response to the Office Action, claims 6, 8 and 17 are amended above to eliminate parenthetical language.

Claims 4, 5, 11, 12, 18, 19 and 22 were rejected under Section 112 for the use of tradenames. This rejection is respectfully traversed. Independent claims 1, 10 and 17 have been amended above to include the designations of the pharmaceutically active materials previously contained in their dependent claims. Dependent claims 4, 5, 11-13, 18 and 19 have been cancelled. Attached is a list of the pharmaceutically active materials of this invention which provides the full name and formula for each material. It is respectfully submitted that the claims do not include trademarks or tradenames, but rather include non-proprietary names by which an article or product is known and called among traders and workers in the art, such that these names do not point to the product of one producer, but rather identify a single article or product irrespective of the producer. The pharmaceutically active materials, such as itraconazole, norfloxacin and others of the present invention are disclosed in the attached U.S. Patent No. 5,780,049 and U.S. Patent Application Publication No. US/2005/0196418, and are well known by those of ordinary skill in the art. It is therefore respectfully submitted that the designations used in the claims are names by which the

products are known among workers of skill in the art and are properly included in the claims.

Independent claim 1 was rejected as being anticipated over each of the three above noted Japanese references. Claim 7, which depends from claim 1, was indicated to be allowable. Claim 1 has been amended above to include the limitations of dependent claims 4, 5 and 7, and claims 4, 5 and 7 have been cancelled. It is therefore respectfully submitted that independent claim 1 as amended above, and its dependent claims, are in condition for allowance as indicated in the Office Action.

Independent claim 10 was also rejected as being anticipated by each of the three Japanese references. Dependent claims 12 and 13, each of which depends from claim 10, were indicated to be allowable. Independent claim 10 has been amended above to incorporate the limitations of dependent claims 11-13, and claims 11-13 have been cancelled. It is therefore respectfully submitted that independent claim 10, and its dependent claims, are in condition for allowance as indicated in the Office Action.

Independent claim 17 was also rejected as being anticipated by the three Japanese references. The limitations of dependent claims 18 and 19, which were only rejected under Section 112 and not over the prior art, have been added to independent claim 17, and claims 18 and 19 have been cancelled. Independent claim 17 is therefore respectfully submitted to be in condition for allowance.

The invention as described in the claims is not anticipated by, or obvious over, any of the cited references, such that the claims are submitted to be in condition for allowance. Allowance of claims 1-3, 6, 8-10, 14-17 and 20-23 is respectfully requested.

Respectfully submitted,

Date: 3-20-07

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